

L 64007-65 EWA(k)/FBD/ENT(1)/ENP(o)/ENT(m)/EEC(k)-2/ENP(1)/T/EEC(b)-2/ENP(k)/EWA(h)/  
EWA(m)-2 SCIB/IJP(c) WG/WH

UR/0020/65/162/005/1030/1033 43

ACCESSION NR: AP5017453

AUTHOR: Stepanov, B. L.<sup>44</sup> (Academician AN BSSR); Rubinyov, A. N.<sup>44</sup>; Mikhnov, S. A.<sup>44</sup> 41

TITLE: Effect of noise radiation on the operation of a ruby laser

SOURCE: AN BSSR. Doklady, v. 162, no. 5, 1965, 1030-1033. 15

TOPIC TAGS: ruby laser, laser efficiency, laser loss, laser noise

ABSTRACT: The authors consider a method which makes it possible to calculate the intensity of the noise in a ruby laser from experimental measurements of the level populations and of the relative pump power. The noise radiation is represented in the form of a sum of the luminescence power and the scattered radiation power, and the absolute values of the radiation density inside the ruby is determined separately for the components due to luminescence, generation, and scattered generation. By introducing a loss factor, which can be determined by a method proposed by the authors elsewhere (Dokl. AN BSSR v. 2, no. 2, 1965), the authors reduce the determination of the power components to a determination of flux densities. The latter can be obtained from the energy balance equations and from knowledge of the ratio of the level populations. The procedure was used to determine the main characteristics affecting the noise radiation in a ruby laser, using a pink ruby crystal.

Card 1/2

L 64007-65

ACCESSION NR: AP5017453

2

tal in the form of a cylinder 48 mm long and 8 mm in diameter. Plots of the flux densities as functions of the loss factor are presented. Conditions under which the noise density becomes appreciable, and even exceeds the useful radiation density, are indicated. Orig. art. has: 2 figures and 12 formulas. [02]

ASSOCIATION: Institut fiziki Akademii nauk BSSR (Physics Institute, Academy of Sciences, BSSR) 44

SUBMITTED: 12Feb65

ENCL: 00

SUB CODE: EC

NO REF SOV: 007

OTHER: 004

ATD PRESS: 4057

Card 2/2

L 33341-66 EEC(k)-2/EWP(k)/EWT(1)/EWT(m)/FBD/T/EWP(e) LJP(c) WH/WG  
ACC NR: AP6006961 SOURCE CODE: UR/0368/66/004/002/0122/0128

AUTHOR: Stepanov, B. I.; Mikhnov, S. A.; Rubinov, A. N.

57  
B

ORG: None

TITLE: Experimental comparison of different methods of determining the loss parameter in quantum generators on neodymium glass

SOURCE: Zhurnal prikladnoy spektroskopii, v. 4, no. 2, 1966, 122-128

TOPIC TAGS: laser theory, neodymium laser, quantum generator

ABSTRACT: Quantum generators have a very low efficiency coefficient, due mostly to the losses of the generated emission in the resonator owing to diffraction, inactive absorption, and dispersion. In theory, all of these losses are described by a single parameter which is one of the most important characteristics of the generator. Two methods for determining this parameter have been described elsewhere. The present article makes a comparison and an experimental verification of different methods of determining the loss parameters in neodymium lasers, approximately described by means of a four-level scheme. Orig. art. has: 4 figures and 7 formulas.

SUB CODE: 20 / SUBM DATE: 11Aug65 / ORIG REF: 008

Card 1/1

*dy*

UDC 535.89

L 47574-66 EWT(1)/T IJP(c)

ACC NR: AP6032442

SOURCE CODE: UR/0368/66/005/003/0294/0301

AUTHOR: Rubinov, A. N.; Mikhnov, S. A.

ORG: none

H  
B

TITLE: Special features of generation in a binary mixture of particles with overlapping emission spectra

SOURCE: Zhurnal prikladnoy spektroskopii, v. 5, no. 3, 1966, 294-301

TOPIC TAGS: laser theory, two component mixture, active material, laser material, EMISSION SPECTRUM, PARTICLE PRODUCTION

ABSTRACT: Probability methods were used in a theoretical study of generation in a two-component system of particles with overlapping emission spectra. It was shown that a specific generation frequency exists for each pumping intensity. Several cases of simultaneous generation at two frequencies were considered. The effect of energy transfer from one kind of particles to the other on the extent of variation in generation frequency was evaluated. The dependence of the working frequency on the pumping intensity can be used in practice as a means of modulating the laser output frequency. The study can also be used to explain the generation frequency instability in cases of heterogeneous active centers. Orig. art. has: 4 figures and 9 formulas. [YK]

SUB CODE: 20/ SUBM DATE: 13Jan66/ ORIG REF: 002/ OTH REF: 003/ ATD PRESS:

5092  
Card 1/1

UDC: 535.89

MIKHNOV, S.S.: Master Med Sci (diss) -- "The prophylaxis of wound infection  
from the surgical treatment of wounds with sealed sutures and local use of pen-  
icillin". Khar'kov, 1958. 14 pp (Khar'kov State Med Inst), 200 copies (KI, No 6,  
1959, 145)

MIKHNOVICH, B. P., kandidat tekhnicheskikh nauk.

Methods for improving automatic control in long distance high frequency  
communication lines. Sbor.nauch. trud. LETIIZHT no.6:17-55 '54 (MLRA 9:1)  
(Automatic control)(Telecommunications)

TYURIN, Viktor Leonidovich, kand. tekhn. nauk, dots.; LISTOV,  
Vladimir Nikolayevich, doktor tekhn. nauk, prof.;  
Prinimali uchastiye: SEMENYUTA, N.F., inzh., D'YAKOV,  
D.V., inzh.; MIKHAYLOVICH, B.P., kand. tekhn. nauk, dots.,  
ANISIMOV, N.K., dots.; BAGUTS, V.P., assistant; NOVIKAS,  
M.N., red.

[Telecommunication] Dal'niaia svyaz'. Izd. 1., 1964. 470 p. (MIRA 1964)  
dop. Moskva, Transport, 1964. 470 p. (MIRA 1964)

ZOLOTAREV, M.A.; PIDOPLICHKO, I.C.; FEDOROV, P.V.; VASIL'YEV, V.N.; IVANOVA, I.K.; GROMOV, V.I.; SOKOLOV, D.S.; ZHIRMUNSKIY, A.M.; PARMUZIN, Yu.P.; PLYUSNIN, I.I.; KATS, N.Ya.; GRICHUK, V.P.; YEFREMOV, Yu.K.; MOSKVITIN, A.I.; LEBDEV, V.D.; TEODOROVICH, G.I.; ZVORYKIN, K.V.; MIKHNOVICH, V.P.; GALITSKIY, V.V.; MAKEYEV, P.S.; NIKIFOROVA, K.V.; GORDEYEV, D.I.; YANSHIN, A.L.; DUMITRASHKO, N.V.; SHANTSER, Ye.V.; P'YAVCHENKO, N.I.; FLEROV, K.K.; PIDOPLICHKO, I.G., doktor biologicheskikh nauk, professor.

Papers presented at the conference on the history of Quaternary flora and fauna in relation to the development of Quaternary glaciation. Trudy Kavchetv.per. 12:129-189 '55.

(MLRA 9:4)

1.Gidrometeorologicheskaya (for Zolotarev). 2.Zoologicheskii institut AN USSR (for Pidoplichko). 3.Institut okeanologii AN SSSR (for Fedorov). 4.Botanicheskiy institut AN SSSR (for Vasil'yev). 5.Komissiya po izucheniyu chetvertichnogo perioda AN SSSR (for Ivanova). 6.Institut geologicheskikh nauk AN SSSR (for Gromov, Yanshin, Nikiforova, Moskvitin). 7.Moskovskiy geologo-razvedochnyy institut imeni Ordzhonikidze (for Sokolov). 8.Akademiya nauk Belorusskoy SSR (for Zhirmunskiy). 9.Moskovskiy institut inzhenerov vodnogo khozyaystva (for Plyusnin). 10.Geograficheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta (for Yefremov, Parmuzin). 11.Moskovskiy gosudarstvennyy universitet (for Lebedev, Zvorykin). 12.Institut nefti AN SSSR (for Teodorovich). 13.Transproektkar'yer Ministerstva putey soobshcheniya (for Mikhnovich). 14.Vsesoyuznyy aerogeologicheskii trust (for Galitskiy). 15.Sovet po izucheniyu proizvoditel'nykh sil AN SSSR (for Makeyev).

(Continued on next card)



ZOLOTAREV, M.A.----(continued) Card 2.

16.Laboratoriya gidro-geologicheskikh problem AN SSSR (for Gordeyev).

17.Institut geografii AN SSSR (for Dumitrashko, Grichuk).

(Paleontology) (Paleobotany) (Glacial epoch)

MIKHNOVICH, YE.P., nauchnyy sotrudnik

Study of the stability of erythrocytes in donors' blood in relation to acids, alkalis, and other chemical substances. Akt.vop.perel.krovi no.4:67-69 '55. (MIRA 13:1)

1. Laboratoriya konservirovaniya krovi Leningradskogo instituta perelivaniya krovi (zav. laboratoriyey - starshiy nauchnyy sotrudnik A.D. Belyakov).

(ERYTHROCYTES)

ROZHDESTVENSKAYA, M.A., starshiy nauchnyy sotrudnik; DANILIN, I.I., starshiy  
nauchnyy sotrudnik; MIKHNOVICH, Ye.P., nauchnyy sotrudnik

Preservative solutions with mono- and disaccharides. Akt.vop.perel.  
krovi no.7:84-87 '59. (MIRA 13:1)

1. Laboratoriya konservirovaniya krovi Leningradskogo instituta pereli-  
vaniya krovi (zav. laboratoriyey - starshiy nauchnyy sotrudnik M.A.  
Rozhdestvenskaya).  
(BLOOD--COLLECTION AND PRESERVATION)

MIKHNOVICH, Ye.P., mladshiy nauchnyy sotrudnik; SEYTS, I.F., prof.

Energy exchange of reticulocytes. Akt.vop.pereb.krovi no.7:128-135  
'59. (MIRA 13:1)

1. Laboratoriya biokhimii (zav. laboratoriyey - prof. I.F. Seyts)  
i laboratoriya konservirovaniya krovi (zav. laboratoriyey - starshiy  
nauchnyy sotrudnik M.A. Rozhdestvenskaya) Leningradskogo instituta  
perelivaniya krovi.

(CELL METABOLISM)

MIKHOVICH, Ye.P.

Some indices of reticulocytic energy metabolism. Vop. med.  
khim. 8 no.5:486-492 S-0'62 (MIRA 17:4)

1. Laboratoriya konservirovaniya krovi i biokhimiicheskaya labo-  
ratoriya Leningradskogo instituta perelivaniyu krovi.

"APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R001134120020-7

APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R001134120020-7"

MINERALOGY, 1942.

"Catalytic Action of Activated Clay - A Study of the Influence of Temperature and  
Activated Clay on the Rate of Reaction of Ethyl Alcohol with Acetic Anhydride,"  
Dokl. Ak. Nauk, 3, Nos. 7-8, 1942; Min. Inst. Mineral. Fuel, Dept. of Geol., Acad.  
Sci. -1472-

"The catalytic Action of Activated Clay on the Reaction of Ethyl Alcohol with Acetic Anhydride,"  
Is. Ak. Nauk. 3, Nos. 7-8, 1942.

Catalytic alkylation of hydrocarbons as method of pre-  
 MAHARUKAYA. *Izv. Akad. Nauk SSSR, Ser. Khim. Nauk*, 1968, 10, 1790-92 (in Russian). Gas-phase alkylation  
 of aromatic hydrocarbons with paraffin-olefin mixt. was  
 studied; as catalysts were used 3 synthetic aluminosilicate  
 contacts and three activated natural aluminosilicates,  
 kaolinite, kumulon, and Zileev clay. Askanite (a Geor-  
 gia clay), 250 g., finely ground and wetted with 900 cc.  
 water, was treated with 170.5 cc. of 35.20% HCl, dried  
 for 2 hrs. at 100°, washed, decanted, and dried on the  
 filter in a drying oven until cessation of evolution  
 of water vapor. The other two clays were treated in a  
 similar manner. Expts. were carried out in catalyst vol.  
 of 100 cc.: (1) Under atm. pressure, C<sub>3</sub>H<sub>8</sub> with a  
 propane-propylene fraction (C<sub>3</sub> 8.2; C<sub>4</sub> 78.2; C<sub>5</sub> 13.1;  
 C<sub>6</sub> 1.6; C<sub>7</sub> 0.6; C<sub>8</sub> 0.3; C<sub>9</sub> 0.1; C<sub>10</sub> 0.1), admitted  
 simultaneously, at a rate of 3 kg gas mixt./l. catalyst/hr.  
 at 300-350°, gave no reaction with the natural catalyst.  
 (2) Under higher pressures (5-75 atm., temp. 250-  
 500°, time of contact τ = 7-40 sec.), with the above gas  
 mixt., same rate of flow, askanite catalyst, optimum yield  
 is obtained at 430°, 75 atm., initial reactant ratio r =  
 C<sub>3</sub>H<sub>8</sub>:C<sub>3</sub>H<sub>6</sub> = 2.12:1; yield in distillate with respect to  
 total reactant 55.5%, with respect to C<sub>3</sub>H<sub>8</sub> 107%; yield  
 in alkylated products γ = 31.5% of distillate; C<sub>3</sub>H<sub>8</sub>  
 decreased from 28.0 to 2.7%. Fractions of distillate:  
 toluene, b. 80-118°, 4.7%; ethylbenzene, b. 110-115,  
 10.3%; propylbenzene, b. 145-165, 24.1%; butylben-  
 zene, b. 165-190, 11.3%; dipropylbenzene, b. 180-  
 220, 13.9%; residue 1.7%; all fractions have very low  
 sulfur no., 0.7-2.0. With synthetic aluminosilicate  
 catalysts, under const. pressure 15 atm., τ 15-19 sec., r  
 1.4-1.8, temp. 320, 330, 380, 425, 450°C., γ = 34.5,  
 34.0, 23.2, 27.4, 23.8%; percent C<sub>3</sub>H<sub>8</sub> converted, ε =  
 71.0, 75.6, 61.5, 50.0, 40.0%. At const. temp. 400°C.,  
 r 1.4-1.8, pressures 15, 30, 60 atm., γ = 31.4, 26.9,  
 22.4, ε = 50.5, 65.0, 71.3%. With another aluminosilicate  
 catalyst, at 380°C., 30 atm., τ 38.6 sec., r 1.52,  
 γ = 62.3%, ε = 81.0%. Increase of r from 1 to 20 sec.  
 increases γ from 20 to 44%, from 2 to 40 sec., ε rises  
 from 65 to 80%; however, from 40 to 90 sec., ε drops to  
 44%. Best conditions for the given synthetic catalysts  
 are 330-380°C., 30 atm., 20-40 sec. (3) Yield of the  
 product obtained at 400°C., 30 atm., 64 sec. for the frac-  
 tions: toluene, b. 80-130 (main 107-108), 2.1%; ethyl-  
 benzene-styrene, b. 130-165, 3.7%; propylbenzene, b.  
 145-165 (main 145.5), 72.0%; butylbenzene, b. 165-  
 190, 4.5%; di- and tripropylbenzene, b. 190-270, 18.7;  
 residue 2.0. All fractions have sulfur no. 0. (4) Pro-  
 duced the high-boiling products accumulating on the cata-  
 lyst are blown away with hot steam every 2 hrs., the syn-  
 thetic catalyst loses only 2% of its activity in 16 hrs.,  
 after 20 hrs. the loss is 25%. The catalyst should com-  
 monly be regenerated every 16 hrs. in an air current and



features related to or associated with oil and gas accumula-  
 tion. P. J. Williams, Jr.  
 Chemistry of acid treatments for sand removal. Char-  
 P. J. Williams, Jr., *Ind. Eng. Chem. Anal. Ed.*, 34(1), 11-13 (1962).  
 the removal of mud from the walls and ceilings of a  
 perforated formation of new wells. H. C. Catlett, in *State*  
 of the two segments can be used. S. J. Williams, Jr., *Ind. Eng. Chem.*  
 are more than plain water. P. J. Williams, Jr., *Ind. Eng. Chem.*  
 Catalytic regeneration of Turner Valley crude oils.  
 W. C. Catlett, A. I. Hillborn, and J. W. T. Squire, *Trans. Am. Chem. Soc.*,  
 75(1), 125-132 (1953). A study was made to determine  
 an increase in the yield of aromatic compounds from Turner  
 Valley crude oils could be effected by catalytic regeneration.  
 from the naphthenes to that derived by  
 from. The naphthenes were similar to that derived by  
 Heng, *et al.*, *J. Catal.*, 1(2), 11-13 (1952). A catalyst of 10%  
 hydrogen chloride on activated alumina at a temp. of  
 115° gave the max. yield. This was a yield of 10%  
 1.15% by wt. of the original crude oil; the latter con-  
 tained only 1.37% by wt. of naphthenes. H. M. Phillips,  
 Chemical constitution of toluene benzene. H. M.  
*J. Am. Chem. Soc.*, 69, 117-118 (1947). The weight  
 of hydrogen content as found from a specific type of  
 method of analysis is given in the literature.

MIKHNOVSKAYA, A. A.

Mikhnovskaya, A. A. - "Contact conversion of hexene and cyclohexene over an aluminosilicate catalyst," Vestnik M'sk. un-ta, 1948, No. 11, p. 141-48 --- Bibliog: p. 148

So: U-3566, 15 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 13, 1949)

YUSHKEVICH-GAVERDOVSKAYA, M.V., LAVROVSKIY, K.F., MIKHNOVSKAYA, A.A., MINOV'YEVA, Z.M.,  
AND YAKIMOCHINA, V.I.

"Contact Transformations of Hexene and Cyclohexene Over an Aluminosilicate Catalyst."  
Vestnik Moskovskogo Universiteta, no. 11, 1948

USSR/Chemistry - Aniline, Alkylation of  
Chemistry - n-Butene

PA 27/4975

Jan 49

"Catalytic Alkylation of Aniline With n-Butene,"  
K. Lavrovskiy, A. Mikhnovskaya, L. Olen'chenko, 3 PE

"Dok Ak Nauk SSSR" Vol LXIV, No 3

Concludes: (1) Synthetic aminosilicates, used for catalytic cracking, are active catalyzers in the alkylation of aromatic amines. (2) During subject alkylation, amines form with a substitution group in the nucleus. Alkylation is accompanied by cracking, destructive alkylation and ring formation with n-toluidine forming as the chief product of

27/4975

USSR/Chemistry - Aniline, Alkylation  
of (Contd)

Jan 49

reaction. (3) Synthetic aminosilicates cause a Hofmann regrouping of the substituted aromatic amines. Submitted 24 Nov 48.

MIKHNOVSKAYA, A.

27/4975

USSR/Chemistry - Polymerization,  
Liquid Fuels

Jul 52

"Investigation of the Interaction of Diolefins  
With Alkyl Halides in the Presence of Oxide Cata-  
lysts." S. R. Sergiyenko, A.A. Mikhovskaya, Ye.V.  
Kozdrina

PA 24376

"Trudy Inst Nefti" Vol 2, pp 22-32

At 250° and 36-37 atm, isopropyl chloride in the  
presence of zinc oxide is converted into a gas contain-  
ing up to 90% of propene, some butene, and the follow-  
ing products of the polymerization of propene:  
trimer (34.1%) and higher polymers (20%). Branched

24376

nonylenes predominate in the trimer fraction. Iso-  
prene under the conditions described above is sub-  
jected principally to cyclic dimerization. Alkyla-  
tion of isoprene with isopropyl chloride did not  
take place under the conditions of the expt. Methy-  
lations of olefins were successfully carried out,  
however (cf. A. P. El'tekov's work which led to  
the synthesis of triptane and B. L. Moldavskiy's  
research, "Zhur Obshch Khimii," Vol 16, No 3,  
p 427, 1945).

MIKHOVSKAYA, A. A.

24376

Y  
SERGIENKO, S.R.; MIKHNOVSKAYA, A.A.; MOZDRINA, Ye.V.

Mechanism of the conversion of isopropyl chloride on zinc oxide. Doklady  
Akad. Nauk S.S.S.R. 87, 427-30 '52. (MLRA 5:11)  
(CA 47 no.22:12208 '53)

MIKHNOVSKAYA, A. A.

*free*

*3.*

*C.A. V-48  
Jan 10, 1954  
Petroleum,  
Lubricants,  
and Asphalt*

Chemical nature of high molecular weight hydrocarbons of petroleum. S. R. Serjienko and A. A. Mikhnovskaya. Doklady Akad. Nauk S.S.S.R. 91, 103-6 (1953). Examn. of petroleum fractions, b. over 200°, derived from the Devonian deposits was made by chromatographic adsorption on silica gel with pet. ether, benzene, and benzene-EtOH solvents. The material, b. 200-370°, contained 49% of paraffin and naphthene hydrocarbons, 13.8% monocyclic aromatic hydrocarbons, 17.1% bicyclic and 17.4% polycyclic aromatic hydrocarbons, and 2.8% tars and losses. The kerosine cuts contain 75% of paraffin and naphthene hydrocarbons and 11% monocyclic and 10.5% bicyclic aromatic hydrocarbons. The light oil contained 48% of paraffin and naphthene hydrocarbons, 19% monocyclic, and 27.7% bicyclic aromatic hydrocarbons. G. M. Kosolapoff

*8/12-54  
8/12*

*Mikhailovskaya, A. I.*

~~The mechanism of conversion of isopropyl chloride on zinc oxide. I. S. R. Serchenko, A. M. Mikhailovskaya and E. V. Ivanova. *Trudy Inst. Khim. Akad. Nauk S.S.S.R.* 4, 83-100 (1964). Isopropyl chloride (I) is almost completely converted into propylene in the presence of ZnO, at 250-327° and atm. pressure. Under 40 atm., the polymerization of I occurs and the 5-7% dimer 34% trimer and 20% high polymer are formed. Under the same conditions (1 atm.), 2,3-dimethyl-1-butene or 2-butene did not polymerize but reacted with isopropyl chloride. At the higher pressure, 2,3-dimethyl-2-butene partly (6%) isomerized to 2,3-dimethyl-1-butene. It was concluded that intermediate formation of dimethylbutene from isopropyl chloride did not take place. It is found that a method of analysis, based on the adsorption of butylenes and propylene by H<sub>2</sub>SO<sub>4</sub> of concn. 68 and 85%, resp., is not accurate for gas rich in propylene, because it is highly adsorbed by 68% H<sub>2</sub>SO<sub>4</sub>.~~

M. Charnandarian

*Handwritten initials*

2



UFSR/Chemical Technology - Chemical Products and Their Application. Treatment of Natural Gases and Petroleum. Motor Fuels. Lubricants, I-13

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62577

Author: Sergiyenko, S. R., Mikhnovskaya, A. A.

Institution: None

Title: Investigation of Group Composition of High Molecular Petroleum Hydrocarbons by Adsorption Chromatography

Original

Periodical: Tr. komis. po analit. khimii AN SSSR, 1955, 6, 162-170

Abstract: By means of adsorption chromatography on ASK silicagel was investigated group composition of the hydrocarbons of dekerosenized Romashkin petroleum of Devonian deposits distilling over above  $325^{\circ}$  and also of catalyzates distilling over above  $200^{\circ}$ , obtained by cracking over alumosilicate catalyst of paraffino-naphthene (PNP) and aromatic portions (AP) of petroleum residue distilling over at  $>325^{\circ}$ . Separation of residue into PNP and AP was effected on silicagel.

Card 1/2

Card 2/2

SERGIYENKO, S.R.; TETERINA, M.P.; MIKHNOVSKAYA, A.A.

Infrared spectrum analysis of macromolecular hydrocarbons and resins  
article No.10. Part 10. Trudy inst. nefti. 10:153-160 '57.

(MIRA 11:4)

(Macromolecular compounds) (Hydrocarbons--Spectra)  
(Petroleum--Spectra)

*1118 H/C VSK H/77 1118*

**SERGIYENKO, S.R.; MIKHNOVSKAYA, A.A.**

Comparative study of chemical nature of macromolecular petroleum hydrocarbons. Article No.13. Trudy inst. nefti. 10:181-187 '57.  
(MIRA 11:4)  
(Petroleum) (Macromolecular compounds)



МАКНИНСКАЯ А. А.

НОВЫЕ ДАННЫЕ  
О СТРУКТУРЕ ВЫСОКОМОЛЕКУЛЯРНЫХ  
УГЛЕВОДОРОДОВ НЕФТИ

С. Р. Сергеева, К. В. Роберт, А. А. Макарян

VIII Mendeleev Congress for General and Applied Chemistry in  
Section of Chemistry and Chemical Technology of Fuels,  
publ. by Acad. Sci. USSR, Moscow 1979

Abstracts of reports scheduled to be presented at above mentioned congress,  
Moscow, 15 March 1979.

Микновская, А.А.

S/165/59/000/04/02/026

AUTHORS: Sergiyenko, S.R., Lebedev, Ye.V. and Miknovskaya, A.A.

TITLE: On the Structure of High Molecular Hydrocarbons in Petroleum //

PERIODICAL: Izvestiya Akademii nauk Turkmenskoy SSR, 1959, No. 4, pp. 10 - 23

TEXT: The article reviews the chemical properties of high molecular hydrocarbons in petroleum as presented in the Section of Chemistry and Technology of Fuel at the 8th Mendeleev Congress on March 17, 1959 in Moscow. Investigation of chemical and technical properties of these hydrocarbons is important in view of their proposed use as raw materials for synthetic products during the current Seven-Year Plan. Data contained herein have been obtained from 15 different types of Soviet petroleum. The Romashkin, Tuymazin, Bavlin, Gyurgyan and other petroleum contain about 40% high molecular hydrocarbons, in heavier petroleum they frequently exceed 50%. To eliminate chemical changes, vacuum was used for distillation of fractions up to 325-350°C, at a maximum temperature of 250°C. Chromatographic fractionation was carried out with coarse-pored activated silica gel (ASK). The group composition of high molecular hydrocarbons and their paraffin-cycloparaffinic (PCP), monocycloaromatic (MCA) and bicycloaromatic (BCA) hydrocarbon contents in various types of petroleum is shown in Table 1. The main components of high

Card 1/3

8/165/59/000/04/02/02

## On the Structure of High Molecular Hydrocarbons in Petroleum

1

molecular hydrocarbons are Paraffin-cycloparaffinic hydrocarbons with high hydrogen content (40-60%), bicycloaromatic hydrocarbons with low hydrogen content, and the medium group are definitely monocycloaromatic hydrocarbons. The differences in chemical properties of petroleum are particularly evident in composition and properties of paraffin-cycloparaffinic hydrocarbons, as far as the determination of their chemical properties remains limited to their reaction in forming a complex compound with carbamide. Distribution of carbon atoms of various chemical properties in similar groups of hydrocarbons extracted from Soviet petroleum is shown in Table 2. The question about chemical properties of cycloparaffinic rings and the relation of hexamethylene and pentamethylene rings in the molecules of paraffin-cycloparaffinic hybridic structures remained unsolved. Number of cycloparaffinic and benzene rings in paraffin cycloparaffinic, monocyclo-aromatic and bicyclo-aromatic hydrocarbons extracted from various types of petroleum is shown in Table 3. Groups and properties of paraffin-cycloparaffinic hydrocarbons, monocyclic aromatic petroleum and bicyclic condensed aromatic hydrocarbons are shown in Tables 4, 5 and 6. Results of a three-stage fractionated dehydrogenation are given in Table 7. It shows that the relation of hexamethylene and pentamethylene rings in the Romashkin (Devon) petroleum varies from 1-1.5. Properties and structure of paraffin-cycloparaffinic hydrocarbons extracted from 3 fractions ✓

Card 2/3

S/165/59/000/04/02/026

On the Structure of High Molecular Hydrocarbons in Petroleum

of paraffin cycloparaffinic hydrocarbons are shown in Table 8. Oxidation of benzene homologues in 30 hours at 97-99°C is shown in Table 9 and oxidation of hybridic hydrocarbons C<sub>20</sub>-C<sub>24</sub> in 100 hours at 97-99°C is given in Table 10. The degree of oxidation of benzenecarbonic acids i.e. oxalic and carbonic acids in 30 hours at 97-99°C is shown in Table 11. The oxidation and infra-red spectroscopy method showed that among high molecular monocyclic hydrocarbons of the Romashkin (Devon) petroleum trisubstituted benzenes are predominant. Tests proved that sulphur contained in high molecular fractions is constitutionally connected with aromatic compounds accompanying bicycloaromatic hydrocarbons. There are 10 tables and 1 diagram.

ASSOCIATION: Institut geologii i razrabotki goryuchikh iskopayemykh Akademii nauk SSSR (Institute of Geology and Processing of Combustible Minerals at the AS USSR) ✓

SUBMITTED: July 11, 1959

Card 3/3



PHASE I BOOK EXPLOITATION SOV/4720

Klyev, Gosudarstvennyy nauchno-issledovatel'skiy i proyektirnyy institut uglei'noy razrabotki, nefteymaz i gazovoy promyshlennosti nauchnyye zapiski, vyp. 11 Dobychna i pererabotka nefli (Scientific Reports of the State Scientific Research and Project Institute for the Coal, Mining, Oil, and Gas Industries, No. 11: Extraction and Processing of Petroleum) Kiyev, 1960. 92 p. 1,000 copies printed.

Sponsoring Agencies: Otdel Gosudarstvennaya planovaya komissiya Soversha Ministroy; Gosudarstvennyy nauchno-issledovatel'skiy i proyektirnyy institut uglei'noy, razrabotki, nefteymaz i gazovoy promyshlennosti "Urniproyekt".

Editorial Council: V. P. Maslov, S. Ye. Anushin, S. I. Salinetskiy, V. Ya. Volchanskiy, D. I. Gel'tser, V. S. Grinshcheyn (Resp. Secretary), B. V. Dabanovskiy, M. M. Zherbin (Chairman), A. P. Kotov, M. I. Logvinov, Yu. M. Ostrovskiy, L. M. Orzechovskaya, G. V. Friedelskiy, V. T. Sklyar (Deputy Chairman), N. Yu. Stasiv, and V. V. Tarbitskiy; Resp. Ed. for this Collection: V. T. Sklyar, Candidate of Chemical Sciences; Ed.: A. Novik.

Card 1/5

PURPOSE: This collection of articles is intended for petroleum researchers, engineers, and refiners.

COVERAGE: The collection of articles deals with the production and refining of petroleum. Individual articles discuss the effect of dissolved gases on the depletion of petroleum deposits under dissolved gas conditions, the effect of pressure on the viscosity of degassed petroleum, the structure of high-molecular petroleum hydrocarbons, the asphaltene and tar components of Carpathian crudes and asphaltene and tar composition of the CO and H<sub>2</sub> product of synthesis. Other articles describe the carbamide dosing method for filtrates of wax distillates, the production of flotation agents with the use of oxidized petroleum, and the investigation of infrared absorption spectra of petroleum hydrocarbons. The relationships between the structure of ethylene-cyclohexane, ethylene-benzene systems. Specific volumes and compression coefficients at

Card 2/5

PETROLEUM REFINING

Seriyenko, J. R., Ye. V. Lebedev, and A. A. Elshinovskiy. On the structure of high molecular hydrocarbons of petroleum. 13

Card 3/5

Sklyar, V. T., A. P. Lisogub, A. P. Mal'nev, and G. A. Puchkov. Study of six-membered aromatic and naphthenic hydrocarbons by infrared absorption spectra. 29

Sklyar, V. T., L. M. Sutsyova, T. G. Sukolovi, and M. V. Artyukov. Asphaltene and Tar Components of Some Carpathian Petroleum and Asphalts of Menilite Shales. 30

Sabirova, G. V., G. M. Shepovarov, and V. M. Karasova. Production of an effective flotation agent based on oxidized petroleum. 56

Zhurba, A. S., and T. F. Zhuse. Comparison of the ethylene-cyclohexane, ethylene-benzene systems by the p-v-t-N (pressure-volume-temperature-molar fraction of ethylene in the mixture) relations and phase equilibrium. 63

Zhuse, T. F., and A. S. Zhurba. Specific volumes and compression coefficients of the n-hexane-ethylcyclohexane system in the interval of pressure to 150 atm and temperature of 30-120°C. 78

Card 4/5

Handwritten scribbles at the bottom of the page.

S/710/60/000/001/001/004  
D055/D113

AUTHORS: Sergiyenko, S.R.; Lebedev, Ye.V.; Mikhnovskaya, A.A.

TITLE: The structure of high-molecular oil hydrocarbons

SOURCE: Kiev. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut ugol'noy, rudnoy, ~~neftyanoy~~ i gazovoy promyshlennosti. Nauchnyye zapiski, no. 1, 1960. Dobycha i pererabotka nefiti, 13-24

TEXT: An account of the chemical structure of high-molecular oil hydrocarbons, based on experimental data obtained in the study of 15 oils from different deposits, mainly in the USSR, is given. It was found that oil hydrocarbons which contain 20 and more carbon atoms in the molecule, consist mainly of hybrid structures. Only paraffinic hydrocarbons are an exception, their content rarely reaching 10%. High-molecular hydrocarbons are an important part of oil (30-50%) and determine its basic composition and properties. The paraffino-cycloparaffinic hydrocarbons, which are richest in

Card 1/3

The structure of ...

3/716/60/000 001/001/001  
2055/D113

hydrogen, as a rule form the basic part (40-60%) of the high-molecular hydrocarbons; bicyclic-aromatic hydrocarbons are poorest in hydrogen; in between both as regards hydrogen-saturation and proportion to the other groups, are the monocyclic-aromatic hydrocarbons. The differences in the chemistry of oils are seen most clearly in the composition and properties of paraffino-cycloparaffinic hydrocarbons. In oils of different structure, 50-70% of the carbon atoms in the molecules of high-molecular hydrocarbons form paraffinic carbon. Liquid-phase dehydrogenization on platinumized coal can be used as a method of selective dehydrogenization of hexamethylene rings. In high-molecular paraffino-cycloparaffinic hydrocarbons of Romashkino (Devonian) oil, the ratio of hexa- and penta-methylene rings varies - 1:1-1.5. Tri-substituted derivatives of benzene (the position of the substituents in the benzene ring is 1,3,5- and 1,2,4-) predominate among the high-molecular monocyclic-aromatic hydrocarbons of Romashkino oil, mono-substituted and 1,4-di-substituted benzenes were found in small quantities, but not 1,2- and 1,3-di-substituted samples were found. Sulfur contained in

Car: 2/3

S/710/60/000 (001/001/001)  
D055/D113

The structure of ...

the high-molecular part of oil is constitutionally linked with aromatic compounds, which mostly accompany dicyclic-aromatic hydrocarbons. There are 11 tables.



Card 3/3

S/075/60/015/003/002/033/XX  
B005/B066

AUTHORS: Zhdanova, N. V. and Mikhnovskaya, A. A.

TITLE: On the Problem of a Determination Method for Benzene  
Carboxylic Acids

PERIODICAL: Zhurnal analiticheskoy khimii, 1960, Vol. 17, No. 3,  
pp. 353 - 354

TEXT: The authors of the present paper determined number and position of the substituents on the benzene nucleus in fractions of monocyclic aromatic hydrocarbons which were separated from the high-molecular portion of petroleum on silica gel by means of chromatography. The determination was carried out by alkaline oxidation with potassium permanganate at 98°C (Ref.2) and subsequent separation of the resultant carboxylic acid mixture by the method by G. Khodzhayev and A. Ibragimov (Ref.3). By this method, the mono-, di-, and trisubstituted benzene carboxylic acids are separated, one after the other, from a dry mixture of carboxylic acids with potassium chloride by extraction with different solvents in a special device. The most critical point of this method is the determina-

Card 1/3

On the Problem of a Determination Method  
for Benzene Carboxylic Acids

S/075/60/015/003/022/037/XX  
B005/B066

tion of trimesic acid which is extracted along with potassium chloride by water and has to be converted to its insoluble barium salt  $[\text{C}_6\text{H}_3(\text{COO})_3]_2\text{Ba}_3 \cdot 2\text{H}_2\text{O}$  for the quantitative determination. Theoretically this salt contains 47.7% barium; the barium salts isolated in the determination described contained, however, up to 59% barium. This indicates that the former barium salt of trimesic acid was contaminated by barium salts of other acids. The investigations of the authors disclosed that this impurity consists of barium oxalate. On separation of the acid mixture by the method by Khodzhayev and Ibragimov the trimesic acid is always accompanied by oxalic acid. Thus, the co-precipitated amount of oxalic acid has to be quantitatively determined in addition to the determination of trimesic acid in the form of barium salt. This determination is possible by the titrimetric method, oxalic acid may, however, also be separated from trimesic acid by sublimation. Both methods give concordant results. The authors further found that also the benzene carboxylic acids which are isolated by the method by Khodzhayev and Ibragimov by extraction with acetone, always contain oxalic acid. Although the authors of Ref.3 applied their method to the quantitative

Card 2/3

On the Problem of a Determination Method  
for Benzene Carboxylic Acids

S/075/60/015/003/022/033/XX  
B005/B066

determination of benzene carboxylic acids which were obtained by extraction from aromatic petroleum fractions, they used, when developing this method, only artificial mixtures of pure benzene carboxylic acids and did not consider in this connection that on oxidation of aromatic petroleum fractions with potassium permanganate also oxalic acid results which interferes with the suggested determination of benzene carboxylic acids. There are 6 references: 5 Soviet and 1 German.

SUBMITTED: May 25, 1959

Card 3/3

PETROV, A.I.; BATALIN, O.Ye.; MIKHNOVSKAYA, A.A.; BEDOV, Yu.A.; KRASAV-  
CHENKO, M.I.; PUSTIL'NIKOVA, S.D.

"Dispersiometric coefficients" of high-boiling hydrocarbons of a  
mixed structure. Neftekhimiya 3 no.6:922-927 N-D '63. (MIRA 17:3)

1. Institut geologii i razrabotki goryuchikh iskopayemykh Gosudarst-  
vennogo komiteta SSSR po toplivnoy promyshlennosti i Leningradskiy  
gosudarstvennyy universitet im. A.A.Zhdanova.



MIKHNOVSKAYA, I.G., kandidat meditsinskikh nauk

Early diagnosis of renal tuberculosis patients with tuberculosis localized elsewhere. Urologia 21 no.4:9-12 Q-D '56. (MIRA 10:2)

1. Iz kafedry urologii (zav. - prof. M.N.Zhukova) Belorusskogo gosudarstvennogo instituta usovershenstvovaniya vrachey.

(TUBERCULOSIS, RENAL, diag.

early diag. in patients with tuberc. of other localizations)

(TUBERCULOSIS, compl.

renal tuberc. in tuberc. of other localizations, early diag.)

MIKHNOVSKAYA, I.G., kandidat meditsinskikh nauk

Perforation of genital abscesses into the bladder in women. Urologia  
22 no.2:50-51 Mr-Apr '57. (MLRA 10:7)

1. Is kafedry urologii (zav. - prof. M.M.Zhukova) Belorusskogo  
gosudarstvennogo instituta usovershenstvovaniya vrachey.

(GENITALIA, FEMALE, abscess  
per. into bladder in women)

(BLADDER, dis.  
perf. of abscess of female genitalia into bladder)

MIKHNOVSKAYA, I.G., kand.med.nauk

Early detection of chronic urinary retention in children [with  
summary in English]. *Pediatria* 36 no.10: 65-66 O '58 (MIRA 11:11)

1. Iz kafedry urologii (zav. - prof. M.N. Zhukova) Belorusskogo  
instituta usovershenstvovaniya vrachey.

(URINATION DISORDERS, in inf. & child.  
chronic retention in child., early diag. (Rus))

MIKHNOVSKAYA, I.G., dots.

Cancer of the right half of a horseshoe kidney. Urologia 24 no.2:  
54-55 Mr-Apr '59. (MIRA 12:12)

1. Iz kafedry fakul'tetskoy khirurgii (zav. - prof. L.D. Zaslavskiy)  
i kafedry gosital'noy khirurgii (zav. - prof. I.B. Oleshkevich)  
Vitebskogo meditsinskogo instituta.  
(KIDNEYS, abnorm.  
horseshoe kidney, cancer of right half (Rus))

MIKHNOVSKAYA, I.G., dotsent

Treatment of nonspecific inflammatory diseases of the urinary tract with furadonin. Zdrav. Bel. 7 no.3:58-59 Mr '61.

(MIRA 14:3)

1. Iz kafedry fakul'tetskoy khirurgii (zaveduyushchiy - prof. N.M.Yanchur) Vitebskogo meditsinskogo instituta.

(URINARY ORGANS---DISEASES)

(FURAN)

MIKHNOVSKAYA, I.G., dotsent

"Forebladder", an anomaly of the urinary bladder. Urologiya  
29 no.1:56-57 '64. (MIRA 11:8)

1. Fakul'tetskaya khirurgicheskaya klinika (zav. - prof. N.M.  
Yanchur) Vitebskogo meditsinskogo instituta.

MIKHONSKAYA, K.G. [Mikhon'skaya, K.G.]

Method of determining the external secretory function of the  
pancreas. *Patol. zhur. [et al.]* no. 6:88-91, 1964,  
(MVA 1964)

1. Biokhimičeskaya laboratoriya Karainskogo instituta pediatrii,  
akusherstva i ginekologii im. I.M. Sevyko.

MIKHNOVS'KA, M., student 4 kursu; ROTMISTROV, M.M., professor, naukoviy  
kerivnik.

Effect of external environment on the development of iodophil  
clostridia from butyric-acid and other closely related bacteria.  
Stud.nauk.pratsi no.20:163-168 '56. (MLRA 9:12)  
(Clostridium) (Variation (Biology))



MIKHNOVSKAYA, N.D. [Mikhnovs'ka, N.D.]

Fungicidal characteristics of some substances of vegetable origin.  
Visnyk Kyiv.un. no.1. Ser.biol. no.2:85-88 '58. (MIRA 16:4)  
(FUNGICIDES)

~~MIKHNOVSKAYA, N.D.~~; ROTMISTROV, M.N., doktor biologicheskikh nauk;  
~~STEFSEKO, A.V.~~, kand. khim. nauk; KULIK, G.V.

Studying the fungicidal properties of chlorine derivatives of  
salicylanilide and carvacrol. Dokl. akad. sel'khoz. 23 no.9:35-38  
'58. (MIRA 11:10)

1. Kiyevskiy gosudarstvennyy universitet imeni T.G. Shevchenko. ,  
Predstavlena akademikom S.N. Murentsevym.  
(Fungicides) (Salicylanilide) (Carvacrol)

MIKHNOVSKAYA, N. D., Cand of Bio Sci -- (diss) " Concerning Certain  
New Anti-Microbe Materials," Kiev, 1959, 12 pp (Kiev Order of V. I.  
Lenin State Institute imeni T. G. Shevchenko. Chair of Microbiology  
and Antibiotics) (KL 4-60, 117)

POTOTSKIY, I.I.; ROTMISTROV, M.N.; KORNIYENKO, Z.A.; MIKHNOVSKAYA, N.D.;  
VASILEVSKAYA, I.A.

Use of dibromosalicylamide in the treatment of pyococcal skin  
diseases. Vest. derm i ven. 34 no.11:27-30 N '60.

(MIRA 13:12)

1. Iz kliniki kozhnykh bolezney (zav. - prof.I.I.Pototskiy)  
Kiyevskogo instituta usovershenstvovaniya vrachey (direktor -  
detsent M.N.Umovist) i kafedry mikrobiologii (zav. - doktor biolog.  
nauk prof.M.N.Rotmistrov) Kiyevskogo Gosudarstvennogo universiteta  
(rektor - akad. I.T.Shvets).

(SALICYLAMIDES ther.)

(PYODERMA ther.)

ROTMISTROV, M.N.; KULIK, G.V.; VASILEVSKAYA, I.A.; MIKHNOVSKAYA, N.D.;  
GAMALEYA, N.F.; RUDAYA, S.P.

Synthetic antimicrobial substances with antibioticlike properties.  
Antibiotiki 6 no.2:111-115 F '61. (MIRA 14:5)

1. Kafedra mikrobiologii i antibiotikov (zav. - prof. M.N.Rotmistrov)  
Kiyevskogo ordena Lenina universiteta imeni T.G.Shevchenko.  
(FUNGICIDES) (SALICYLAMIDE)

ROTMISTROV, M.M.; MIKHNOVSKAYA, N.D. [Mikhnovs'ka, N.D.]; BAYSHEVA, V.G.  
[Baishva, V.H.]; KULIK, G.V. [Kulyk, H.B.]

Reduction of the sensitivity of microorganisms adapted in  
vitro to salicylanilides and alkylated phenols. Visnyk  
Kyiv. un. no.5. Ser.biol. no.1:69-73 '62. (MIRA 16:5)  
(SALICYLANILIDE) (PHENOLS) (BACTERICIDES)

ROTMISTROV, M.N. [Rotmistrov, M.M.]; MIKHEOVSKAYA, N.D. [Mikhnovska, N.D.]

Cellulose fermentation by the pectin-decomposing bacteria Clostridium pectinovorum and Cl. felsineum. Visnyk Kyiv.un. no.5. Ser. biol. no.2:79-84 '62. (MIRA 16:5)

(BACTERIA, CELLULOSE-DECOMPOSING) (CLOSTRIDIUM)

POTOTSKIY, I.I., prof.; ROTMISTROV, M.N., prof.; KORNIYENKO, Z.A.; MIKHNOVSKAYA,  
N.D., kand. biolog. nauk; KULIK, G.V.

Treatment of epidermophytosis with 2'-chloroanilide of  
5-chlorosalicylic acid. Vest. dermat. i ven. no. 9:42-45'62.

(MIRA 16:7)

1. Iz kliniki kozhnykh bolezney (zav. - prof. I.I. Pototskiy)  
Kiyevskogo meditsinskogo instituta i kafedry antibiotikov  
(zav. - prof. M.N. Rotmistrov) Kiyevskogo gosudarstvennogo  
universiteta. Rabota vypolnyalas' po zadaniyu Farmakologi-  
cheskogo komiteta pri Uchenom s'ezhe Ministerstva zdravo-  
okhraneniya UkrSSR.

(SALICYLIC ACID—THERAPEUTIC USE) (DERMATOMYCOSIS)



1. MIKHNEVSKIY, D. K.

2. USSR 600

4. Sheep-Ukraine

7. Transformation of sheep raising in the Carpathian zone of the Ukrainian S.S.R. Sov. zootekh. 7 no. 5, 1952. Kandidat Biologicheskikh Nauk Kiyevskaya Nauchno Issledovatel'skaya Stantsiya Zhivotnovodstva

9. Monthly List of Russian Accessions, Library of Congress, July 1952. UNCLASSIFIED.

KLASSEN, Kh.I., kand. sel'skokhozyaystvennykh nauk.; MIKHNOVSKIY, D.K., kand.  
biol. nauk.; SMIRNOV, I.V., kand. biol. nauk

New methods and forms in breeding. Zhivotnovodstvo 20 no. 10:59-64  
0 '58. (MIRA 11:10)

(Artificial insemination)

MIKHNOVSKIY, L.

On the shores of the Baltic Sea. Vokrug sveta no.7:2-7 J1'55.  
(Baltic States) (MLRA 8:10)

MIKHNOVSKIY, L.

At the collective farm stadium. Zdorov'e 5 no.7:16-17  
J1 '59. (MIRA 12:11)  
(BZHETSK DISTRICT (KALININ PROVINCE)--SPORTS)

IMUK USIV/S KIV S

2/16  
 The structure and electric properties of thin layers of  $\text{GeS}_2$ . I. D. Kosovskiy and S. P. Zhar. 1, 161-9 (Russian summary, 196-7) (1960). The structure and the electrical properties of thin layers of  $\text{GeS}_2$  (100 Å thickness) were investigated by aid of electronographic method. It could be shown that the structure of the material is a polycryst. material

which has a spherulite structure with a lattice const.  $a = 6.465 \text{ \AA}$ . The electroconductivity was investigated from -80 to 300° K, i.e. the range which governs the cond. In n-type of cond. of a monocrystal in a thin layer a p-type cond. was observed. The specific resistence of the starting sample was 0.1 ohm cm. In this layer it reached about 10 ohm cm. It was found to be very stable after it had been heated to 150°. This was due to the reversibility of the transition changes. Also determined the spectrum of a transparent layer of 1000 Å at room temperature. The absorption max. was in the region from 2 to 15  $\mu$  at various sample thicknesses and it was found that the max. of absorption shifts slightly in thicker samples to the region of shorter wave length. Warner Jacobson

SP

*M. I. KONZENKO, S. D. MIKHNOVSKIY*  
KONZENKO, I.D.; MIKHNOVSKIY, S.D.

Structure and electric properties of indium antimonide in thin layers.  
Izv. AN SSSR. Ser. fiz. 20 no.12:1486-1490 D '56. (MLBA 10:3)

1. Institut fiziki Akademii nauk USSR.  
(Indium antimonide--Electric properties)

GIADU (Kiyev); LEVIN, A.A. (Kiyev); LEVIN, S.I. (Kiyev);  
LEVIN, E.M. (Kiyev); LEVIN, S.I. (Kiyev)

extension of the logical possibilities of the ALGOL-60 language.  
Zhur. vych. mat. i mat. fiz. 4 no. 1964-3. Mr-Apr 1965.

RABINOVICH, Z.L.; POLKOIZINA, K.M.; SHLYAKHOVA, N.I.; MIKHNOVSKIY, S.D.  
[Mikhnovskiy, S.D.]; GALENKO, D.N. [Malenko, D.M.]

Arithmetic calculator with increased computing speed. Zbir.  
prats' z obchys. mat. i tekh. 3:76-83 '61. (MIRA 15:2)  
(Calculating machines)



ACCESSION NR: AT3012133

S/2967/63/000/000/0165/0170

AUTHORS: Rabinovich, E. D.; Mikhnovskiy, S. D.; Podkolzina, K. M.; Shlyakhovaya, N. I.; Galenko, D. N.

TITLE: Arithmetic device with increased speed in execution of operations

SOURCE: Voprosy\* vy\*chislitel'noy matematiki i vy\*chislitel'noy tekhniki. Moscow, 1963, 165-170

TOPIC TAGS: arithmetic device, binary system, partial addition, combination semi-integrator, transposition, square root operation

ABSTRACT: The logical structure and various junction schemes of a parallel arithmetic device of some general type are considered. The basic operations of the device are addition, subtraction, multiplication, division, and taking the square root, all done in a binary system with fixed decimal point location. The general electronic structure of the device is given with trigger elements, amplifiers, and semiconductor triodes. To improve the economy of operation, a two work-cycle system is used, carrying out partial addition by means of a combination semi-integrator. Multiplication is performed starting with the lowest digit with partial product shifts. To accelerate division operations, a transposition code is used,

Card 1/2

ACCESSION NR: AT3012133

transcribing the zero digit numbers in cells of the same register by the scheme

$n - (j - 1) \approx j$ , where  $j$ - number of arbitrary zero digit. The time for performing a square root operation is given by  $\tau_r = (3n + 2) \tau_c + n\tau_d$ , where  $n$  indicates quantity of zero digits in the mantissa of a number and  $\tau$  is the work cycle. Orig. art. has: 10 formulas and 3 figures.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 22Oct63

ENCL: 00

SUB CODE: CP

NO REF SOV: 003

OTHER: 001

Card 2/2

L 11596-66 EWT(d)/EWP(1) IIP(c) BB/GG

ACC NR: AP6001196

SOURCE CODE: UII/0376/65/000/005/0018/0020

AUTHOR: Mikhaovskiy, S.D. (Supervising Engineer); Shor, N.Z. (Candidate of physico-mathematical sciences, Senior Research Associate) 48  
B

ORG: Institute of Cybernetics, AN UkrSSR (Institut kibernetiki AN UkrSSR)

TITLE: The estimate of the minimum number of forwardings during the dynamical allocation of a paginal memory

SOURCE: Kibernetika, no. 5, 1965, 18-20

TOPIC TAGS: computer memory, digital computer, computer storage, computer design, algorithm

ABSTRACT: The <sup>VC144</sup>paginal memory of a digital computer is a graduated dynamically allocated memory with fixed segmentation of the volume and of the stored information, such as the one in the "Atlas" computer. Such a memory is split into fixed and equal groups of cells (pages), and the totality of words stored within the cells of the page is considered an information unit (segment) which remains undivided during an allocation of the memory. The paper investigates an algorithm for segment exchange between two adjacent memory stages which involves a minimum number of forwardings attainable by a most rational exchange of segments under

Card 1/2

UDC: 681.142.1.01

L 14596-66

ACC NR. AP6001196

otherwise equal conditions. The algorithm cannot be used in practice in systems with a dynamical allocation of the memory, but is of interest as an algorithm for the estimate of the minimum possible number of forwardings. Its peculiarities are related to the fact that the choice of the "last" segment is based not on the statistical characteristics found during the preceding period of the operation, but on the study of the order of sampling of information segments in the future. The operation of the algorithm is studied on the case of a two-stage memory with a known sequence of information segment sampling and a given initial memory distribution.

SUB CODE: 09/ SUBM DATE: 15Jan65/ OTH REF: 001

FW  
Card 2/2

L 02328-67 EWT(d)/EWP(1) IJP(c) GG/BB/GD

ACC NR: AT6010532

SOURCE CODE: UR/0000/65/000/000/0073/0082

AUTHOR: Mikhnovskiy, S. D.

ORG: none

43  
B+1

TITLE: Addressing of data block elements by means of <sup>16C</sup> address scales

SOURCE: AN UkrSSR. Voprosy teoreticheskoy kibernetiki (Problems in theoretical cybernetics), Kiev, Naukova dumka, 1965, 73-82

TOPIC TAGS: computer language, digital computer, memory address

ABSTRACT: The author considers "word blocks," regarding the data as sequences of symbols in a certain prescribed alphabet, and each individual word an "element." Problems relating to the computation of the address of this data block element are analysed and an arrangement which will provide a faster addressing of this element, independently of any previous access to the data block of which the element is a part is discussed. This addressing method is based on a preliminary construction of relative address sequences or "address scales." The circuit arrangement described was originally conceived as an element of the system for incorporated language interpretation ALGOL-60, although this circumstance in no way limits the possibilities of its use in other analogous systems. The method can be employed with data blocks of any

Card 1/2

ACC NR: AP6015705

SOURCE CODE: UR/0413/66/000/009/0106/0106

INVENTOR: Mikhnovskiy, S. D.

ORG: None

TITLE: A method for dynamic distribution of information. Class 42, No. 181393  
[announced by the Institute of Cybernetics AN UkrSSR (Institut kibernetiki AN UkrSSR)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 9, 1966, 106

TOPIC TAGS: information processing, computer memory

ABSTRACT: This Author's Certificate introduces a method for dynamic distribution of information in a memory system, principally for computers having various types of storage units (e. g. a ferrite tank and magnetic drum). The storage units are divided into equal groups of consecutive cells (pages) by dynamic distribution with respect to pages of groups of words corresponding to them (segments). The numbers of the actively used segments and the pages they occupy are then recorded. The system is designed for reducing the amount of equipment required in the case of a large-capacity ferrite tank and also for facilitating modification of the tank capacity. The numbers of the group of segments in this tank are registered together with those of the pages corresponding to them. The number of pages is less than and independent of the total number in the ferrite tank, and substitution of this group is done with regard to the frequency of referral.

SUB CODE: 09/ SUBM DATE: 13May65

Card 1/1

UDC; 681.142.07

ARHENOVSKIY, V. A.

"The Effectiveness of Certain Methods of Deepening the Arable Layers of  
Podzolic Meadow Soils." Cand Agr Sci, Soil Inst, Acad Sci USSR, 9 Feb 55.  
(VK, 26 Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher  
Educational Institutions (13)  
SU: Sum. No. 598, 29 Jul 55

**MIKHNOVSKIY, V.K.**

Effectiveness of various methods of deepening the plow layer of  
turf-Podzolic soils. Trudy Pochv. inst. 49:7-72 '56. (NLBA 9:8)  
(Flowing) (Podzols) (Crops and soils)



MIKHNOVSKIY, V.K.

MIKHNOVSKIY, V.K.

Effect of perennial grasses and annual cultivated plants on the fertility of Turf-Podsolic soils in connection with a deeper plow layer. Pochvovedenie no.9:96-105 S '57. (MIRA 10:12)

1. Pochvennyy institut im. V.V.Dokuchayeva, Pochvenno-biologicheskaya laboratoriya.

(Soil fertility) (Grasses) (Plowing)

ANDRONIKOV, V.L.; MIKHNOVSKIY, V.K.

Using large-scale soil maps in agriculture. Pochvovedenie  
no.12:24-35 D '59. (MIRA 13:4)

1. Pochvennyy institut im. V.V.Dokuchayeva Akademii nauk  
SSSR.

(Soils--Maps)

MIKHNOVSKIY, V.K.; MOROZOVA, A.V.

Effect of fertilizers and the depth of tillage in turf-Podzolic soils on the protein content of grass-mixture hays. Izv. AN SSSR. Ser. biol. no.5:753-761 8-0 '60. (MIRA 13:9)

1. Soil Institute, Academy of Sciences of the U.S.S.R., Moscow.  
(GRASSES—FERTILIZERS AND MANURES) (TILLAGE)  
(PROTEINS)

TYURIN, I.V.; MIKHNOVSKIY, V.K.

Effect of green manure on humus and nitrogen concentration in  
turf-Podzolic soils. Izv. AN SSSR Ser. biol. no.3:337-351 My-Je  
'61. (MIRA 14:5)

1. Soil Institute, Academy of Sciences of the U.S.S.R., Moscow.  
(GREEN MANURING) (HUMUS) (SOILS--NITROGEN CONTENT)

VYSOTSKAYA, P.N.; MIKHNOVSKIY, V.K.

Effect of green manures and peat on the content and group  
composition of humus in turf-Podzolic loamy soils. Pochvovedenie  
no.2:37-41 F '62. (MIRA 15:3)

1. Pochvennyy institut imeni V.V.Dokuchayeva.  
(Podzol) (Green manuring)

TYURIN, I.V. [deceased]; MIKHNOVSKIY, V.K.; YARTSEVA, A.K.

Results of studying the nitrogen balance in turf-Podsolic soils  
during their cultivation. Pochvovedenie no.8:1-10 Ag '62.  
(MIRA 16:1)

1. Pochvennyy institut imeni V.V.Dokuchayeva.  
(Podsol) (Soils--Nitrogen content)

MIKHNOVSKIY, V.K.; VYSOTSKAYA, P.N.; KOTOVA, L.V.

Effect of organic fertilizers on the formation of humus and  
nitrogen balance in loamy turf-podzolic soils. Pochvovedenie  
no.12:61-67 D '62. (MIRA 16:2)

1. Pochvennyy institut imeni V.V.Dokuchayeva.  
(Podzol) (Humus) (Soils--Nitrogen content)

MIKHNOVSKIY, V.K.; YAKOVLEV, A.V.

Use of the aftermath of forage grain hybrids as green manure.  
Biul. Glav. bot. sada. no.49:111-112 '63. (MIRA. 16:8)

1. Pochvennyy institut imeni V.V. Dokuchayeva Ministerstva  
sel'skogo khozyaystva SSSR i Glavnyy botanicheskiy sad AN SSSR.  
(Green manuring)  
(Triticum-agropyron hybrids)



ACCESSION NR: AT4033627

S/0000/63/000/000/0109/0118

AUTHOR: Mikhnushev, A. G.

TITLE: The Om-9-2 teaching machine with resultant input of response information

SOURCE: Programmirovannoye obucheniye i kiberneticheskiye obuchayushchiye mashiny\* (Programmed instruction and cybernetic teaching machines); nauchno-tekhn. sb. statey. Moscow, Izd-vo "Sovetskoye radio," 1963, 109-118 and insert facing p. 246

TOPIC TAGS: teaching machine, programmed instruction, response input, response recording, resultant response input

ABSTRACT: The article gives a brief description of a teaching machine of the "Kontroler" ("Ekzamenator") type with resultant response input and student response recording. The operation of the functional and fundamental circuitry of the machine is explained and an example is given, illustrating the use of the machine in the actual teaching process. The OM-9-2 is primarily designed to check student achievement in technical disciplines. The machine indicates not only the presence of an error in a response to a question, but also the place where the error was committed. The use of the machine for control quizzes or colloquia permits the instructor to reduce by 50-70% the time needed to check the knowledge  
Card 1/4

ACCESSION NR: AT4033627

of the students; moreover, the OM-9-2 indicates which questions the student has mastered unsatisfactorily. The machine operates in working modes of "control" and "self-control", the fundamental operating condition being the "control" condition, with the student receiving no evaluation of his answers from the machine (that is, with a one-way connection "student - machine"). The basic advantage of the OM-9-2 is the use of the resultant (non-optional) method of answer input, which frees the student of the need to code the answers before introducing them into the machine and eliminates the possibility of merely "guessing" the correct answer. The machine also permits the recording of the answer evaluation, thus allowing the instructor to be physically absent from the class during the quiz or examination. A blank is provided in this case, on which all the errors the student may have committed are recorded. In the "self-control" mode of operation, signal lamps indicate the evaluation of the answers. The machine consists of the following elements: memory device; answer input panel; comparison circuit; recording device; indicator device. The memory holds 48 binary code bits, permitting the input into the machine of answers consisting of 12 elementary operations (by operations is here understood the input of one digit, symbol or letter). For example, the number 5123 is introduced in four operations (I - thousands, II - hundreds, III - tens, IV - units). Four binary bits are assigned to each operation. A functional

Card 2/4

ACCESSION NR: AT4033627

diagram of the OM-9-2 teaching machine is shown in Figure 1 of the Enclosure. The operation and practical application of the machine is described thoroughly in the article. Orig. art. has: 6 figures.

ASSOCIATION: None

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Card 3/4

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ENCLOSURE: 01

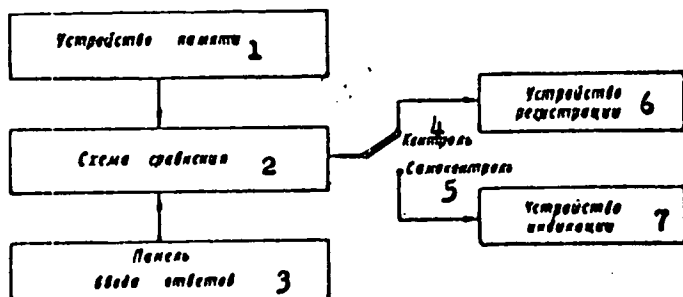


Figure 1. Functional diagram of the OM-9-2 machine  
1 - memory device; 2 - comparison circuit; 3 -  
answer input panel; 4 - "control"; 5 - "self-control";  
6 - recording device; 7 - indicating device

Card 4/4

MIKHNUSSHEV, A.G.; SOKOLINSKIY, I.Ya.

Teaching machine with automatic answers. Izv. vys. ucheb.  
zav.; radiotekh. 6 no.4:435-439 J1-Ag '63. (MIRA 16:11)

SOKOLINSKIY, Iosif Yakovlevich, kand. tekhn. nauk, dotsent; MEKHNUCHPV, Aleksey Gur'yevich, преподаvatel'

The OM-9-5 teaching machine. Izv. vys. uchob. zav.; elektromekh. 8  
no. 8:895-900 '65. (MIRA 18:10)

1. Kiyevskoye vyssheye inzhenerno-radiotekhnicheskoye uchilishche.

LENDZION, K.; MIKHNYAK, R. [Michniak, R.]; ROZANOV, A.

Lithostratigraphic correlation of the late Pre-Cambrian and Lower Cambrian of the Swietokryzskie Mountains and northwestern part of the Russian Platform. Izv. AN SSSR. Ser. geol. 30 no.8:85-96 Ag '65. (MIRA 18 9)

1. Geologicheskii institut Tsentral'nogo upravleniya geologii Pol'shi, Varshava, Institut geologii Pol'skoy Akademii nauk, Varshava i Geologicheskii institut AN SSSR, Moskva.

MIKHNYAYEVA, N.I.

Track sprayer. Put' 1 put. khoz. 9 no.7120 '65.

(MIRA 18:10)

1. Zamestitel' nachal'nika proizvodstvennogo otdela sluzhby  
M'vovskoy dorogi.



RAZUKOVICH, M.B., kand. biol. nauk,; KUSHNERUK, A.G.,; MIKHNYUK, N.F.

Medicinal properties of phytoncides. Zhivotnovodstvo 20 no. 7:43-45  
Jl '58. (MIRA 11:8)

1. Zhivotnovod kolkhoza "Molodaya gvardiya," Brestskogo rayona,  
Brestskoy oblasti (for Kushneruk). 2. Direktor shkoly Berestovitskogo  
rayona, Grodnenskoy oblasti (for Mikhnyuk).

(Phytoncides)

(Calves--Feeding and feeding stuffs)

MIKHNYUK, S.P., veterinarnyy vrach.

Liquid blood preparation for animals. Veterinariia 33 no.2:63-66  
F '56. (MLBA 9:5)

1. Baranovichskiy myasokonservnyy kombinat, Brestskoy oblasti.  
(BLOOD AS FOOD OR MEDICINE) (SWINE--DISEASES)

MIKHINYUK, S., veterin.vrach

Detection of trichinae in cross sections of muscles of  
of the intestinal tract. Mias.ind.SSSR 30 no.6:35 '59.  
(MIRA 13:4)

1. Baranovichskiy myasokombinat.  
(Trichina and trichinosis) (Baranovichi--Meat inspection)

MIKHNYUK, S. vetvrach

Veterinary and sanitary inspection of horse meat. Mias.ind.SSSR  
31 no.1:56 '60. (MIRA 13:5)

1. Baranovicheskiy myasokombinat.  
(Horse meat)

MIKHNYUK, S.

Effect of fluxes on the infestation of liver by microflora. Mias.ind.  
SSSR 32 no.6:31-33 '61. (MIRA 15:2)

1. Baranovicheskiy myasokonservnyy kombinat.  
(LIVER FLUID) (MICRO-ORGANISMS, PATHOGENIC)

MIKROYE, C. J., Veterinarian

Larvae of warble fly in the vestibular canal of ear.

Microfilaria 38 no. 2190-4. A. 11.

(M. H. 11)

. Microfilaria sp. n. 11.

MIKHNYUS, S.F., veterinarnyy vrach

Bacteriological study of liquid hematogen. Veterinarina 41 no. 3:102-  
103 Mr '65. (MIRA 18:4)

MIKHAYUKOVICH, A.

How to achieve conscientious discipline. Prof.-tech. obr. 17 no.9:25-  
26 S '60. (MIRA 13:10)

1. Pomoshchnik direktora po kul'turno-vospitatel'noy rabote stroitel'-  
nogo uchilishcha no.33 (Chelyabinsk).  
(Chelyabinsk Province--Building trades--Study and teaching)  
(School discipline)



9.3120

S/194/62/000/003/053/006  
D201/D301

AUTHOR: Mikho, V. V.

TITLE: The effect of gas sorption on the electron work function from the layers of copper, silver and gold

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 3, 1962, 56, abstract 3zh345 (Nauchno yezhegodnik, Odessk. un-t. Fiz.-matem. fak. i N.-i in-t fiz. no. 2. Odessa, 1961, 185-186)

TEXT: Changes in the work function of Cu, Ag and Au layers 30 - 300 millimicrons thick were observed during heating in vacuo at temperatures 50 - 60°C. The vacuum conditions are not given. Measurements have shown that in all samples studied, the work function initially decreases, goes through a minimum and then increases to a certain constant value. After the heating ended, the work function was gradually restored to its initial value (much faster in air than in vacuo). [Abstracter's note: Complete translation.]

Card 1/1

5/139/62/000/000/01/072  
E194/E155

AUTHOR: Mikho, V.V.

TITLE: Luminescence near the electrodes in an electrolytic bath

PERIODICAL: Izvestiya vyssnikh uchebnykh zavedeniy, Fizika, no.6, 1962, 99-104

TEXT: Luminescence near the electrodes of an electrolytic bath is associated with the presence of an oxide film, but has been studied only on aluminium and mainly in oxalic acid. The influence of the electrolyte was accordingly studied, in particular that of the capacitance of the electric double-layer electrode-electrolyte. As the observed ignition potential was lower on d.c. than on a.c., measurements were made in the frequency range 16 - 5000 c/s, and the ignition potential was found to be independent of frequency. The current was directly proportional to frequency, showing that the impedance was associated with the capacitance of the double layer. The main electrode was a rod or wire of immersed area 1 cm<sup>2</sup> and the other was a nickel sheet of 50 cm<sup>2</sup>. In the equivalent circuit of the electrolytic bath a capacitor represents the double  
Card 1/4

Luminescence near the electrodes ... S/139/62/000/000/015/052  
E194/E155

layer, with a resistance in parallel corresponding to its admittance and a series resistance corresponding to the resistance of the electrolyte. The currents and voltages at different values of external resistance indicate the capacitance and equivalent parallel resistance of the double layer. The capacitance of the oxide layer proper would be about 0.1 microfarads, but most of the measured capacitance, which may be several microfarads, is due to the double layer. Luminescence was observed in over 20 aqueous solutions of organic and inorganic acids, salts and bases at various concentrations and in certain non-aqueous solutions. The fullest results were obtained with aluminium electrodes, but Ta, Mg, Bi, Zn and Sb were also used. Luminescence extinction tests were made with certain halide salts and also with less chemically active materials, such as chloroform. In the electrolytic bath the main voltage drop occurs immediately near the electrode and is presumably divided between the oxide film and the double layer. With aluminium (or other metal) cathodes, and fields of the order of  $10^6 - 10^7$  V/cm, electron transfer from metal, and from the impurity zone to the vacant zone, give appreciable

Card 2/4

Luminescence near the electrodes ... S/159/62/000/006/015/032  
E194/E155

current densities. Since the oxide film thickness is about  $10^{-2}$  cm and the ignition potential is some tens of volts, stresses of this order will occur in the double layer. Transfer of electrons back from the conduction zone to the impurity zone is accompanied by luminescence. At high field intensities, much of the current is transferred by tunnel effect. Cathodic luminescence cannot be prolonged because the accompanying reduction effect destroys the oxide layer and intensive gas evolution disturbs the double layer. When the aluminium is anodic, electrons can be transferred by the tunnel effect from the impurity levels to the conductivity zone. Reverse transfers of electrons can also be accompanied by luminescence, as when the aluminium is cathodic. At low field intensities, anodic luminescence may take the form of flashes, because electrons accumulate in the oxide layer and reduce the field intensity. Luminescence occurs as soon as the field intensity reaches a particular value, which depends both on the applied voltage and on the thicknesses of the oxide film and of the double layer. The film thickness depends on the electrolyte and that of the double layer depends on the electrolyte and its

Card 3/4